



Docket No. JJI-49

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Larry B. Gray et al.

Serial No. : 09/665,668 Art Unit: 3731

Filed : September 20, 2000 Examiner: V.Q. Bui

For : AXIALLY FLEXIBLE STENT

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January 22, 2004

(Date)

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January 22, 2004

(Date of Signature)

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APPEAL BRIEF

TECHNOLOGY CENTER R3700

Dear Sir:

1. Real Party in Interest

The real party in interest is Cordis Corporation, the assignee of the present application.

2. Related Appeals and Interferences

The Applicants, their agents and assignees are unaware of any appeals or interferences which may be directly or indirectly

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affected by the current appeal or have a bearing on the board's decision in the pending appeal.

3. Status of Claims

Claims 21 and 22 remain in this application and have been finally rejected in a Final Rejection dated August 1, 2003. All other claims have been canceled. Appellants have filed a response after final on October 6. It was not entered by the Examiner.

4. Status of Amendments

Amendment filed October 6, 2003 was not entered by the Examiner.

5. Summary of Invention

The invention describes a stent having first and second ends with an intermediate section between them. The stent has a longitudinal axis, and both an unexpanded and expanded configuration. Further it contains longitudinally disposed struts, each strut defining a wave along the longitudinal axis; the spatial frequency of the wave associated with each of the struts is different in a first end region lying near one of the ends in comparison to the spatial frequency of the wave in the intermediate section. These are also described in the tubular structure. The frequency of the wave is greater in the first end region.

Finally, at least one of the longitudinally disposed wave-shaped struts is connected to an adjacent of the longitudinally

disposed wave-shaped struts by a separate link, and each of the links are axially displaced from any other circumferentially adjacent link.

6. Issues

1. Is claim 21 patentable over 35 USC § 102(b) with respect to the Simon reference?
2. Is claim 22 patentable over Simon using 35 USC § 102(b)?
3. Is the Terminal Disclaimer proper?
4. Is the rejection using 35 USC § 112 overcome?

7. Grouping of Claims

It is believed that each of claims 21 and 22 form a separate group. Whereas claim 21 requires that the frequency of the waves is greater in the first end region, claim 22 does not do so. However, claim 22 provides that each of the links connects adjacent wave-shaped struts, so the at least one of the struts is connected to an adjacent strut by a separate link. This is not a requirement of claim 21. Accordingly, it is submitted that claims 21 and 22 will stand or fall separately.¹

¹ An exception is acknowledged for the objection under the Terminal Disclaimer. With the Disclaimer, it is acknowledged that the claims will run concurrently with the '906 patent. Therefore, while under the Disclaimer, the claims can be "grouped" together, necessarily there is a need to discuss them separately.

8. Argument

1. Is claim 21 patentable over 35 USC § 102(b) with respect to the Simon reference?

According to the Examiner, Simon U.S. Patent No. 5,354,308 describes a stent 14 which has a wire for defining a series of longitudinally disposed struts, where each strut defines a "wave" along the longitudinal axis. This cannot be farther from the case. As seen in Figure 5, the stent in its unexpanded shape is simply a series of *straight* segments, very similar to those in early prior art, such as Palmaz, U.S. Patent No. 4,733,665. In contrast, as can be clearly seen from Figure 2 of the current invention, the struts of the present invention are actually cut in wave-shaped form. This is starkly different than that which existed in the prior art. It is similarly in contrast to that which exists in Simon. Accordingly, for this reason alone, the claims cannot be found to be anticipated by Simon.

Of course, each of the waves in the present application are described as having a greater frequency at their end regions. Naturally since Simon does not disclose a wave, he cannot possibly disclose a "frequency" of such "waves".

Also, it is to be noted that Simon does not render the present application obvious. In fact, Simon teaches away from having a wave-shaped structure as described. These wave-shaped struts are configured so as to create additional flexibility of the stent. Naturally, Simon is deficient in this regard as

well. Accordingly, at least claim 21 is patentable over the Simon reference.

2. Is claim 22 patentable over Simon using 35 USC § 102(b)?

In claim 22, there is the additional limitation made to which require that the links which separate the plurality of circumferentially disposed struts, are axially displaced from each other. Simon makes no such reference. While the Examiner describes the same links 6 of Simon in both claims 21 and 22, he fails to identify any links which maintain a displacement of the wave-shaped struts. In fact, it is seen that the alleged by "wave-shaped struts" actually intersect each other. Accordingly, there is simply no way that the Examiner can find the "link" element in Simon. So, for this reason alone it is respectfully submitted that Simon does not anticipate claim 22. In adition, for the reasons mentioned above, claim 22 is not rendered obvious by Simon.

3. The Terminal Disclaimer

The Examiner rejected the Terminal Disclaimer proposed in this present application. Incorporated with the brief (as Appendix B) are three Declarations relating to the current application. In the first Declaration, the Applicants gave Power of Attorney to the Bromberg firm, including Harriet Strimpel. This Declaration was filed on December 20, 1996, in the parent to this application, Serial No. 08/770,236. Thereafter, Ms. Strimpel granted an Associate Power of Attorney to the undersigned attorney, on March 13, 1998 (also attached hereto). Finally, the undersigned attorney filed a document (on

October 2, 1998) indicating that all letters filed for this application be submitted to the undersigned attorney's address. In this regard, the undersigned is in fact an attorney of record. Accordingly, it is respectfully submitted that the Terminal Disclaimer filed by Assignee, Cordis Corporation, is in fact appropriately signed. (A copy of this Terminal Disclaimer is also enclosed in Appendix B.) This rejection should be removed.

4. The rejection under 35 USC § 112

Claim 22 was objected to for positive antecedent basis problems. Enclosed with this brief is a proposed amendment to the objected claim 22, which is believed to overcome the objection under 35 USC § 112. This is Appendix C. Its entry is requested, to, at a minimum, resolve this issue.

Claim 22 is amended so that it is made clear that the longitudinally disclosed wave-shaped struts are adjacent to one another and connected by a separate link. Further it is made clear that each of the links are actually displaced from any other circumferential adjacent links. Accordingly, it is submitted that the objection to claim 22 should be removed, at least under § 112.

CONCLUSION

Applicants herewith request allowance of claims 21 and 22.

Respectfully submitted,



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APPENDIX A

21. (Previously amended) A stent having first and second ends with an intermediate section therebetween, the stent further having a longitudinal axis, and both an unexpanded and expanded configuration comprising:

(a) a plurality of longitudinally disposed struts, wherein each strut defines a wave along the longitudinal axis; the spatial frequency of the wave associated with each of the struts being different in a first end region lying proximate to one of said ends in comparison to the spatial frequency of the wave in the intermediate section; and

(b) a plurality of links for maintaining the struts in a tubular structure;

wherein said frequency is greater in said first end region.

22. (Currently amended) A stent having first and second ends with an intermediate section therebetween and a longitudinal axis, and both an unexpanded and expanded configuration, said stent comprising:

said unexpanded configuration comprising a plurality of longitudinally disposed wave-shaped struts placed adjacent to one another around the stent; and

a plurality of circumferential links for maintaining the longitudinal disposed wave-shaped struts in a tubular structure at a plurality of locations along said strut, wherein at least one of said longitudinally disposed wave-shaped struts is connected to an adjacent of said longitudinally disposed wave-shaped struts by a separate link, each of said links being axially displaced from any other circumferentially adjacent link.

APPENDIX C

21. (Previously amended) A stent having first and second ends with an intermediate section therebetween, the stent further having a longitudinal axis, and both an unexpanded and expanded configuration comprising:

(a) a plurality of longitudinally disposed struts, wherein each strut defines a wave along the longitudinal axis; the spatial frequency of the wave associated with each of the struts being different in a first end region lying proximate to one of said ends in comparison to the spatial frequency of the wave in the intermediate section; and

(b) a plurality of links for maintaining the struts in a tubular structure;

wherein said frequency is greater in said first end region.

22. (Currently amended) A stent having first and second ends with an intermediate section therebetween and a longitudinal axis, and both an unexpanded and expanded configuration, said stent comprising:

said unexpanded configuration comprising a plurality of longitudinally disposed wave-shaped struts placed adjacent to one another around the stent; and

a plurality of circumferential links for maintaining the longitudinally disposed wave-shaped struts in a tubular structure at a plurality of locations along said strut, wherein at least one of said longitudinally disposed wave-shaped struts is connected to an adjacent of said longitudinally disposed wave-shaped struts by a separate link, each of said links being axially displaced from any other circumferentially adjacent link.